Aftermath

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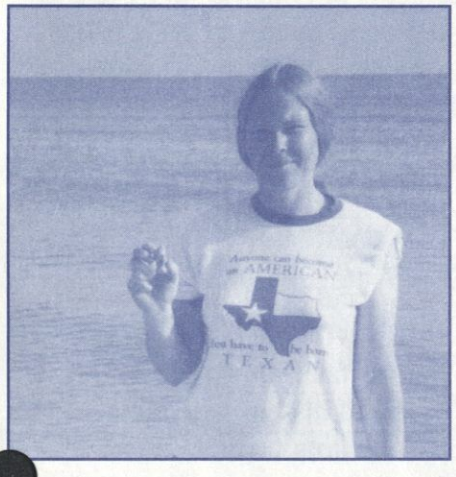
Mathematics Department Hires Full Time Instructor



Sandra Johnson came to Commerce **x** years ago from Delran, New Jersey. She received her B. S. degree in Special Education and Psychology in 1982. In 1983 she worked for Texas A&M University-Commerce as a graduate assistant in the Math Department and received a second B. S. degree in mathematics in 1986. Sandy went on to work toward her Master's degree and held the position of Math Tutor Supervisor at Mach III while continuing that pursuit. When she finished her master's in 1991 she went to work for Paris Junior College as an adjunct instructor. For the last 4 years she has held an adjunct position at TAMU-C. During that time she co-authored "Modification of the Key Number Method of Factoring." It was published in the January '94 issue of Texas Mathematics Teacher.

To this day the VME faculty members have been trying to solve for **x**, the number of years ago that Sandra moved to Commerce. So far, no one has come up with the correct solution. So what is **x**?

Colloquia news

For 1995-1996, we had many colloquium speakers from the math department at Texas A&M University-Commerce, as well as the following speakers from out-of-town:

Dr. Mary Gray (from The American University, in Washington, DC)
Dr. Neal Brand (from the University of North Texas)
Deuard Worthen (from Texas Instruments, in Dallas)
Dr. Jack Mealy (from Austin College)
Tony Dardis Tillinghast (a Dallas actuary)
Dr. R.D. Mauldin (from the University of North Texas)
Dr. Ed Wilson (from the University of Dallas)

This semester (Fall 1996) we are planning to have out-of-town speakers from UNT, the University of Dallas, and E-Systems. The colloquia are at 3pm on Wednesdays, and all are invited to attend. A schedule is posted at:

http://www.tamu-c.edu/AcademicOrganizations/sigmaxi/sfcmath.html

Faculty Update

For the first time in almost thirty years a fall semester has begun without Drs. Bedgood, Brock, Lamb, and Lambert. I'm sure they miss us as much as we miss them, but it's hard to tell by the looks on their faces. They each appear to be tanned, rested, and contented after enjoying their summer travels. Dr. Lamb has relocated near Austin so that he and Mildred could be closer to their children.

In addition, Dr. Connie Yarema has accepted a teaching position at Northeast Louisiana State University in Monroe. We have lost and Louisiana has gained an excellent math teacher and a very nice person.

Math Department Web Page

The math department set up an extensive web page last year which was both informative and entertaining. It included personal web pages of each of the faculty, information concerning classes, announcements and pictures of departmental activities. Due to a hard drive crash this summer, all files were lost, and we are in the process of reconstructing them. Now that we know what we are doing, we hope to have a professional-looking web page back up within a month or two. Look for us at: http://math.tamu-c.edu

Project NExT

by Warren Koepp

Project NExT (New Experiences in Teaching) is a national fellowship program for faculty who are in the first two years of their first permanent academic job after grad school. It is entering the third year of an initial three-year grant from the Exxon Education Foundation. For each of the past three academic years, a group of 50-70 new fellows have been chosen nationwide to participate in the program. Fellows begin the NExT experience with three-day series of workshops, panel discussions, and activities centered on all issues of concern to young faculty, but primarily focusing on quality and innovation in teaching. Participants then attend the Mathfest, which is one of the two annual national-level MAA meetings. Over the following year the participants are required to attend the winter meetings (in San Diego this year), and the Mathfest the following summer. At their second Mathfest the NExT fellows take much of the responsibility for creating and facilitating the workshops and activities for the new crew. All of the fellows from any given year are linked through an e-mail server at the MAA, where ideas that came out of the conferences are further explored, and new discussions arise almost daily. As one of this year's fellows put it, you have an "instant nationwide group of peers at institutions of every type". One long-term goal of the project is to get young, enthusiastic faculty involved in the professional organizations at all levels, encouraging them to grow into the roles of leaders in the field over the coming decade.

Our department's association with NExT began at the state level where Gertrud Kraut, an original NExT fellow from UT-Tyler, won a grant from the Exxon Education Foundation to create a state-level version of the program. Five of our faculty (Connie Yarema, Heidi Staebler, Deej Heath, Italo Simonelli, and Warren Koepp) attended the spring sectional MAA meeting in Lubbock with funding from this grant. Presenters and panelists at this meeting included a number of officers from the Texas Section; Jim Leitzel, co-director of the national NExT; and Louise Raphael, an MAA national Vice President. There were 19 fellows at the meeting, from schools all over the state (e.g. Baylor, Texas Tech, UT-Pan American, Sul Ross State University, and our own ETSU). As at the national level, the Texas NExT fellows are linked through an e-mail server. One other MAA section has had a similar program, and if it seems like a productive project at the regional level, others may soon follow suit.

Our department's association with NExT continued this past summer, when I was chosen to be a NExT fellow at the national level. The previously described regimen of activities in Seattle was exhausting, but the ideas and discussions of that week are working their way into my teaching on a daily basis. Facilitators , presenters, and senior mentors at the meeting included Joe Gallian and Aparna Higgins (two sessions on undergraduate research, which is something I am personally interested in seeing develop here), the presidents of both the MAA and AMS, and the national coordinators of NExT, Jim Leitzel and T. Christine Stevens. The cooperative learning approach I have implemented in my Math 131 is a direct outgrowth of my NExT contacts, as are several of the new ideas I am trying to work into abstract algebra. My electronic mailbox is overflowing with continuing discussions on the teaching of mathematics at all levels, and in all areas. I hope to share many of these ideas with my colleagues here at TAMU-Commerce, and to take some of the innovations we are trying here and disseminate them to this large group of fellow educators.

TAMU-C Incorporates *MAPLE* into Calculus

Powerful mathematical tools have elbowed their way into both the industrial and educational branches of math, science and engineering. Sharing the limelight with hand-held graphing calculators are computer algebra systems (CAS) such as *MAPLE*, *Mathematica,* and *Derive*. The Mathematics Department has chosen *MAPLE* for incorporation in the Calculus sequence.

MAPLE will produce 2- and 3-dimensional graphics, and even animate them. It solves algebraic equations in terms of radicals instead of decimals. It will compute Taylor series, display Riemann sums, and calculate derivatives and integrals. *MAPLE* enables students to do many more problems at a higher level than they could with pencil and paper. Routine algebraic manipulations that add little to the learning of new concepts are minimized, thereby showing the student the forest rather than the trees.

MAPLE also allows for experimentation in mathematics. Each Calculus student has the option of registering for a one-hour lab course, Math 198, which meets in the new Arts and Sciences computer lab once a week. The laboratory projects, developed pri-

marily by Dr. Bart Goddard, lead the students into new concepts that were difficult to teach in the past. One of the early Calculus 1 labs asks the student to graph $y = f(x+b)$ and $y = f(x)+a$ for a given function $f(x)$ and for various values of a and b. The student then "discovers" the effect of the two parameters on the graph of the function.

MAPLE is also a powerful tool for real industrial applications, so our students are learning a skill that will help them in any future math, science or engineering endeavors. Further, an increasingly large number of secondary schools are seeking teachers having familiarity with CAS, as the educational value of experimental learning in mathematics becomes more apparent.

Putnam News

On Saturday, December 2, 1995, eleven TAMU-C students participated in the 56th annual Putnam exam. This six-hour-long test has only 12 problems, yet to get 2 problems correct places the student in the upper fifth of the country. (More than a quarter of the participants nationally received a score of ZERO.) This was the fourth year in a row that TAMU-C has fielded a team of three, and as usual we had a positive team score. By late October we would have the 1996 team assembled.

Sample problem from the 1995 test: Evaluate $\sqrt[8]{2207-\frac{1}{2207-\frac{1}{2207-\ldots}}}$, expressing your answer in the form $\frac{a+b\sqrt{c}}{d}$ where a, b, c, and d are integers.

(Hint:a=3,b=1,c=?,d=?)

Mathematics Awareness Week 1996 Activities

Mathematics Awareness Week for 1996 was April 22-26 and featured the theme "Mathematics and Decision Making." Activities included a math video film-fest, a raffle (but participants had to solve a recreational "math" problem correctly before entering!), a problem solving competition, and a mathematics education essay contest. In addition, R.D. Mauldin, University of North Texas, gave a talk on random distributions. All activities were open to the entire TAMU-C community—except mathematics faculty weren't eligible for the prizes, which were donated by local businesses and included savings bonds and restaurant meals. Area schools were also included in the week. The TAMU-C mathematics department sponsored an elementary school poster contest for the poster best depicting the week's theme and a middle school problem-solving raffle contest.

Tenth Annual Homecoming Alumni Breakfast Scheduled

The tenth annual Homecoming Mathematics Alumni Breakfast will be held at 9:00 a.m., Saturday, October 26, 1996 in the Bluebonnet room in the Sam Rayburn Memorial Student Center. Several scholarships will be awarded and alumni recognized. Please send your reservations in by October 22, 1996. The cost is $6.00 per person. If you cannot attend, please take time to fill out the return form so we can accurately update our alumni files.

Name: _____

Address: _____

City, State & Zip: _____

Phone: ( ) _____

Please Reserve _____ places at the Homecoming Alumni Breakfast on October 26, 1996 in the Bluebonnet Room of the MSC @ $6.00 each.

Enclosed: $ _____

Meetings Attended

The annual meeting of the Texas Section of the MAA on March 26-28 at Texas Tech University in Lubbock, Texas was attended by **Stuart Anderson, Deej Heath, John Heath, Warren Koepp, Rick Kreminski, John (Jack) Lamb, Italo Simonelli, Heidi Staebler,** and **Connie Yarema**. It should be mentioned that Deej, Warren, Italo, Heidi, and Connie all went as Texas Project NExT fellows. Graduate students Roger Kelley, Elizabeth (Betsy) Price, and Pamela Webster also participated.

Dr. Stuart Anderson attended the National joint AMS/MAA meetings in Orlando, Florida on January 10-13, 1996, and the National AMS/MAA meeting in Seattle, WA from August 9-12, 1996.

Dr. Bart Goddard attended the West Coast Number Theory Conference in Monterey, CA, the NSF-CBMS Conference on Euler Products and Eisenstein Series at TCU in April, both with travel expenses supplied by the NSF, and the Riemann Symposium, with travel expenses supplied by the newly formed American Institute for Mathematics.

Dr. Daniel (Deej) Heath attended the Texas Geometry and Topology Conference in November 1995 and the Nara Knot Theory Conference in Nara, Japan in January.

Dr. Warren Koepp received a faculty grant to attend the International Conference of Technology in Collegiate Mathematics in Houston, October, 1995. He also attended the National AMS/MAA meeting in Seattle, WA, August 9-12, 1996, as a national Project NExT fellow.

Dr. Rick Kreminski attended the Texas Geometry and Topology Conference in Austin, November 1995, and the North Texas Relativity Seminar.

Dr. Italo Simonelli attended the conference "In Honor of Herbert A. David's 70th Birthday" in Ames, Iowa.

Ms. Heidi Staebler received a faculty grant to attend the International Conference of Technology in Collegiate Mathematics in Houston, October, 1995. She also attended the "Calculus Concepts" faculty development workshop sponsored by Houghton-Mifflin/DC Heath in Charlotte, NC on July 26 & 27, 1996.

Other Activities

Dr. Stuart Anderson served as Chair of the Texas section of the MAA from 1995-1996. He will continue serving the Texas section of the MAA as Secretary from 1996-1999.

Dr. Bart Goddard received a mini-grant to support research on Heron Triangle;. "The bulk of the award went to involve student programmers in the research." He also continues to referee papers for the *Fibonacci Quarterly*, and was honored to be appointed to the Board of Editors for that publication. Further, he organized a faculty colloquium on Additive Number Theory; Drs. Kreminski, Simonelli and himself believe there may be some common professional ground in this area, which studies sequences via probability methods. Dr. Goddard has also been working to introduce the computer algebra system MAPLE into our Calculus sequence, as per the accompanying article.

Dr. Daniel (Deej) Heath worked to develop the departmental web (internet) pages, (see accompanying article.) He was also married to Yumiko Muraoka in December 1995.

Dr. Warren Koepp was supported by National Project NExT to attend the AMS/MAA meeting in Seattle this August. He is currently Co-coordinator of Project NExT's state-level activities for the Texas Section MAA meeting in Seguin, Spring 1997. He also refereed for the *Journal of Algebra*.

Dr. Rick Kreminski is serving as the President of the TAMU-C chapter of Sigma Xi (no official name change yet), organizes the colloquium schedule for the department of mathematics, and organizes the departmental Putnam team. He worked together with Heidi Staebler to organize the departmental celebration of Mathematics Awareness Week.

He also had a baby boy. He writes: "We had a baby boy, Benjamin Samuel Woods Garcia Kreminski, born August 5, 1996 (by emergency C-section. Yikes!) Amelia is a doting big sister, and Chris is a protective big brother."

Ms. Heidi Staebler organized the department's activities during Mathematics Awareness Week, together with Rick Kreminski. She is also extending reforms in business mathematics to the Math 175 course where she is supplementing the standard text with two chapters our of *Calculus Concepts: An Informal Approach to the Mathematics of Change*.

Math Skills Center

The math skills center in Binnion Hall is open for students Monday through Friday 8am to 8pm. There are tutors available throughout the day. There are new computers in the computer lab next door to the skills center ready to accomodate the new demands of the instructors who are teaching with Maple, Mathematica, and the TI-8x series calculators.

Alumni Notes

Jennifer Garrett, Commerce Middle School math teacher, was recognized by the Department of Mathematics as an ETSU Alumni Association Ambassador last April. As an ambassador she presented an inspirational talk for Math 372 students, elementary education math specialists, which was enjoyed by all.

Jennifer holds a B.A. in library science and English from the University of Missouri and an M.Ed. from ETSU. After teaching two years at Miller Grove ISD in the elementary grades, Jennifer began taking math courses at ET in the fall of 1979. During this time Jennifer served as a graduate assistant teaching Math 105. After accumulating 40+ hours in math and obtaining elementary and secondary certification, Jennifer was hired by Commerce ISD and has been with the district 14 years where she teaches 8th grade math and Algebra I and coaches the school's MATHCOUNTS and UIL Number Sense teams. Jennifer has also taught summer sessions for Paris Junior College and TAMU-C-.

Jennifer has received several honors during her teaching career. In 1990, she was honored by the Texas Academy of Mathematics and Science for special influence on a student attending the academy. In 1991 she was named the outstanding math teacher of Hunt County and in 1992 received the Exemplary Service Award from theTAMU-C Phi Delta Kappa Chapter. She has also been named to the Who's Who Among America's Teachers.

Jennifer thoroughly enjoys teaching mathematics and attributes her love of math to the TAMU-C math department. Jennifer has passed along her enjoyment of math by presenting activities and ideas at TAMU-C and at CAMT (the Conference for the Advancement of Mathematics Teaching). An NCTM (National Council of Teachers of Mathematics) member since 1976, Jennifer encourages teachers to join the association and to attend CAMT and workshops the region centers offer.

Math Club Activities

The Mathematics Clubs' officers during the 1995-96 school year were Darlene Austin, Pi Mu Epsilon President; Pamela Webster, Pi Mu Epsilon Vice-President; Martha J. Kuhl, MAA President; Kenneth Williams, MAA Vice-President; Ronald R. Layton, Alpha Gamma Alpha President; and Roger Kelley, Treasurer of all three clubs.

The fall picnic, the regular meetings, the Christmas Party, and the Spring Banquet all went very well under the capable leadership of those listed above. We were happy to see Ronnie Layton, Roger Kelley, and Elizabeth Price present talks at the meeting of the Texas Section of the MAA, held at Texas Tech University in March. Over $700 for scholarships was raised through projects led by these officers and assisted by several members. The most notable project was one which made and sold a variety of shapes of candy for Valentine's Day ! Martha Kuhl and Pam Webster were chiefly responsible for carrying out that highly successful project. Other students instrumental in the project were Ashley Montgomery, Paige Wilt, Jeff Norris, Jen-Te Tseng, Betsy Price, Kenneth Williams, and Roger Kelley.

Papers, Books, and Presentations

Dr. Bart Goddard gave a colloquium talk entitled *"Scary Math: Nontrivial Zeros of the Riemann Zeta Function and the Primes,"* for the department's colloquium series, and will have a paper "*Polynomials of Quadratic Type Producing Strings of Primes*," appearing in the Canadian Math. Bulletin.

Dr. Daniel (Deej) Heath had three papers accepted for publication this past year: "On Haken's Algorithm and Immersed Surfaces," to appear in the *Kobe Journal of Mathematics*, Vol. 13, No. 1 (1996), "Essential Tangle Decomposition from Thin Position of a Link," with Tsuyoshi Kobayashi, to appear in the *Pacific Journal of Mathematics*, and "On Classification of Heegaard Splittings and Triangulations," also to appear in the *Pacific Journal of Mathematics*. He also submitted: "On Classification of Heegaard Splittings," to the *Osaka Journal of Mathematics*, and has begun initial distribution of yet another two: "Locally Thin Position for a Link," and "A Search Algorithm for Thin Position," both joint papers with Tsuyoshi Kobayashi of Nara Women's University in Japan.

Dr. Warren Koepp presented the paper "On Generalized Witt Algebras," at the Texas section MAA meeting in Lubbock.

Dr. Rick Kreminski submitted four papers this year to *The Mathematica Journal, The American Mathematical Monthly, The College Math Journal,* and *Teaching Children Mathematics*. He presented two talks at the Texas Tech meeting of the MAA entitled "Visualizing the Hopf Fibration," and "Estimating Logarithmic Values," and gave two presentations in the North Texas Relativity Seminar.

Dr. John (Jack) Lamb presented a paper entitled "Mathematical Expectation for the Texas LOTTO Lottery" at the Texas section MAA meeting in Lubbock.

Dr. Italo Simonelli has recently written a book, *Bonferroni-type Inequalities with Applications*, a joint work with Professor Janos Galambos of Temple University. "The book presents a large variety of extensions of the method of inclusion and ex-

clusion, and discusses how these inequalities can be applied to a large variety of fields, i.e., statistics, classical probability theory, extreme value theory, number theory. It can be used as a reference by researchers in these fields." In addition, his article "An Extension of the Method of Polynomials and a New Reduction Formula for Bonferroni-type Inequalities" has appeared in *Statistics & Probability Letters* 28 (1996), and his article "Bonferroni-type Inequalities—Recent Advances" was accepted to be published in the *Proceedings of the First Conference in Applied Statistical Science at Rider University*. Both of these articles, like his book, are joint works with Dr. Janos Galambos.

Ms. Heidi Staebler presented the paper "Hints by Heloise for Teaching Non-traditional Mathematics" at the Texas section MAA meeting in Lubbock.

Math Department Scholarships This Year

Each year, through the generosity of math department alumni and friends, we are able to award several scholarships to deserving mathematics majors. The following awards were presented at the 1995 Alumni Homecoming Breakfast:

Rachel Lafferty Scholarship
Summer Melcher (Freshman)

Lafferty Excellence Awards
Jen-Te Tseng (Sophomore)
Melissa Rogers (Senior)
Betsy Price (Graduate)
John Fornof (Graduate)
Michael Pentecost (Graduate)

Cecil B.Wright Scholarship
Thomas Witt (Senior)

John and Elaine Yznaga Scholarship
Andrew Speir (Freshman)

Dennis Grantham Graduate Scholarship
Roger Kelley

The recipients of scholarships to be presented at this year's Alumni Breakfast are:

Rachel Lafferty Scholarship
Daulton Cotton (Freshman)

W. W. "Bub" Taylor Scholarship
Andrew Speir (Sophomore)

Cecil B.Wright Scholarship
James Payne (Junior)

John and Elaine Yznaga Scholarship
Rachel Walker (Freshman)

Lafferty Excellence Award
Teri Hudgeons (Junior)

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